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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,198	12/27/2000	Shinichi Kanna'	Q62447	5369

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EXAMINER
LEE, SIN J

ART UNIT	PAPER NUMBER
1752	4

DATE MAILED: 02/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/748,198	KANNA ET AL	
	Examiner	Art Unit	
	Sin J Lee	1752	

-- The MAILING DATE of this communication appears on th cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al (6,265,135 B1) in view of Kobayashi et al (6,136,500).

In Example 7 (see Table 1 in col.66), Kodama uses a resin composition containing a photoacid generator (III-1), a resin binder (b-28), a *surfactant*, and an *organic basic compound,* all of which is dissolved in propylene glycol monomethyl ether acetate *(a solvent)*. The resin binder (b-28) is taught to be equivalent to the resin binder (b-29) in col.37, lines 10-35. Since

these two resin binders were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to replace the resin binder (b-28) with the resin binder (b-29) in Example 7 with a reasonable expectation of achieving a positive-working resist composition excellent in a pattern profile.

The resin binder (b-29) teaches *present component (a)* which is a resin of the formula (I); in present formula (I), R_1 would be an alkyl group having 1 carbon atom, n would be in integer of 2, and W would be an organic group containing an oxygen atom and an unsubstituted aryl group, more specifically $-OR_2$ (*as presently claimed in claim 3*) wherein R_2 would be an unsubstituted aryl group.

The photoacid generator (III-1), which is used in Example 7 and which structure is shown in col.10, lines 5-10, is exactly the same as applicants' (PAG 3-22) which is shown on pg.51 of present specification as one of the examples for the *present component (b-1)*.

Therefore, the prior art teaches every components of present claim 1 except for the component (b-2). Kobayashi et al, a reference which teaches a positive type radiation sensitive resin composition, teaches (col.2, lines 42-59 and col.12, lines 50-65) that using a photoacid generator comprising (I) a compound that upon exposure to radiation generates a carboxylic acid and (ii) a compound that upon exposure to radiation generates an acid other than a carboxylic acid can markedly suppress the problems of "nano-edge roughness" or "coating surface roughness". As particularly preferred acid generators that generates a carboxylic acid, Kobayashi includes *iodonium salts of carboxylic acids* and *sulfonium salts of carboxylic acids* (see col.15,

lines 66-67, col.16, lines 1-7). Kobayashi also teaches (col.17, lines 63-65) that for the acid generators that generates an acid other than a carboxylic acid, compounds that upon exposure to radiation generates *sulfonic acid* and/or sulfinic acid are preferred. Since Kodama's photoacid generator (III-1) used in Example 7 also generates a sulfonic acid upon exposure to radiation, it is the Examiner's position that based on Kobayashi's teaching it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids together with Kodama's photoacid generator (III-1) in Kodama's invention in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. Because the iodonium salts of carboxylic acids or the sulfonium salts of carboxylic acids are also cited (see pg.67, last paragraph of present specification) by applicants as examples for the photoacid generator (b-2), Kodama in view of Kobayashi would render obvious present component (b-2), and either of iodonium salts of carboxylic acids and sulfonium salts of carboxylic acids would *inherently* make no contribution to the decomposition reaction of the acid-decomposable group as presently recited. Therefore, Kodama in view of Kobayashi teaches present inventions of claims 1-5.

With respect to present claims 6 and 7, Kodama teaches (col.39, lines 50-60) that the mole fraction of the acid-decomposable group in the resin is preferably from 0.01 to 0.7 which is converted to 1-70 mol%. Since this range overlaps with both of the ranges of claims 6 and 7, the prior art's range would have made present ranges of claims 6 and 7 prima facie obvious. In the case "where the [claimed] ranges overlap or lie inside ranges disclosed by the prior art," a prima

facie case of obviousness would exist which may be overcome by a showing of unexpected results, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

With respect to present claims 8-10, Kodama teaches (col.40, lines 14-21) that their resin can be used in the amount of 40-99% by weight, since this range overlaps with the present ranges of claims 8-10, the prior art's range would have made present ranges of claims 8-10 prima facie obvious. In re Wertheim, supra.

With respect to present claim 11, Kodama teaches (col.58, lines 52-59) that his positive-working resist composition may further comprise an alkaline developer-soluble resin. Therefore, Kodama in view of Kobayashi teach present invention of claim 11.

With respect to present claims 18-20, Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5. Therefore, it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids together with Kodama's photoacid generator (III-1) in Kodama's invention in the weight ratio of 0.01-5 in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. The prior art's range of 0.01 to 5 teaches present range of claim 18. This range also overlaps with present ranges of claims 19 and 20, and thus the prior art's range would have made the present ranges of claims 19 and 20 prima facie obvious. In re Wertheim, supra.

With respect to present claims 12-17, since Kodama uses 0.09 grams of the photoacid generator (III-1) in Example 1, and since Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5, this will give 0.0009 - 0.45 grams for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.0009 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids to the resist composition of Example 7, this will give 4.9 wt% of the photoacid generator (III-1) and 0.05 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.45 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids, this will give 4 wt% of the photoacid generator (III-1) and 19.8 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Therefore, the photoacid generator (III-1) will range from 4-4.9 wt% and iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids will range from 0.05-19.8 wt%. The range of 4-4.9 wt% for the photoacid generator (III-1) overlaps with present ranges of claims 12-14, and the range of 0.05-19.8 wt% for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids overlaps with present ranges of claims 15-17. Therefore, the prior art's teaching would render the present ranges of claims 12-17 prima facie obvious. In re Wertheim, supra.

4. Claims 1, 3, 4, 8-10, and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al (5,994,025) in view of Kobayashi et al (6,136,500).

In Embodiment 20 (see Table 2, and col.24, lines 55-67), Iwasa uses a resist composition having Polymer of Embodiment 7 (which structure is shown in col.20, lines 10-20) and N-hydroxysuccinimidetoluene*sulfonate* (*present photoacid generator (b-1)* that generates a sulfonic acid upon exposure to radiation), dissolved in propyleneglycolmonomethylether acetate (a *solvent*). The polymer of Embodiment 7 teaches present resin of the formula (I); in present formula, R_1 would be an alkyl group having 1 carbon atom, n would be an integer of 2, and W would be an organic group containing 2 oxygen atoms and 2 carbon atoms, more specifically -O-C(=O)-CH_3 (presently claimed -O-C(=O)-R_2 of claim 3 wherein R_2 represents an alkyl group having 1 carbon atom). Iwasa also teaches (col.10, lines 27-33) that his photoresist composition may include a *surfactant*. Therefore, Iwasa teaches every component of present claim 1 except for the present component (b-2).

Kobayashi et al, a reference which teaches a positive type radiation sensitive resin composition, teaches (col.2, lines 42-59 and col.12, lines 50-65) that using a photoacid generator comprising (I) a compound that upon exposure to radiation generates a carboxylic acid and (ii) a compound that upon exposure to radiation generates an acid other than a carboxylic acid can markedly suppress the problems of "nano-edge roughness" or "coating surface roughness". As particularly preferred acid generators that generates a carboxylic acid, Kobayashi includes *iodonium salts of carboxylic acids* and *sulfonium salts of carboxylic acids* (see col.15, lines 66-67, col.16, lines 1-7). Kobayashi also teaches (col.17, lines 63-65) that for the acid generators that generates an acid other than a carboxylic acid, compounds that upon exposure to radiation

generates *sulfonic acid* and/or sulfinic acid are preferred. Since Iwasa's photoacid generator used in Embodiment 20 also generates a sulfonic acid upon exposure to radiation, it is the Examiner's position that based on Kobayashi's teaching it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids together with Iwasa's photoacid generator in Iwasa's invention in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. Because the iodonium salts of carboxylic acids or the sulfonium salts of carboxylic acids are also cited (see pg.67, last paragraph of present specification) by applicants as examples for the photoacid generator (b-2), Iwasa in view of Kobayashi would render obvious present component (b-2), and either of iodonium salts of carboxylic acids and sulfonium salts of carboxylic acids would *inherently* make no contribution to the decomposition reaction of the acid-decomposable group as presently recited. Therefore, Iwasa in view of Kobayashi teaches present inventions of claims 1, 3, and 4.

With respect to present claims 8-10, Iwasa uses 0.99 grams of the polymer in Embodiment 20, which converts to 99 wt% of the polymer, and thus the prior art teaches present inventions of claims 8-10.

With respect to present claims 18-20, Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5. Therefore, it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium

salts of carboxylic acids together with Iwasa's photoacid generator in Iwasa's invention in the weight ratio of 0.01-5 in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. The prior art's range of 0.01 to 5 teaches present range of claim 18. This range also overlaps with present ranges of claims 19 and 20, and thus the prior art's range would have made the present ranges of claims 19 and 20 prima facie obvious. In re Wertheim, supra.

With respect to present claims 12-17, since Iwasa uses 0.01 grams of the photoacid generator (i.e., the sulfonic acid generator) and since Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5, this will give 0.0001 - 0.05 grams for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.0001 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids to the resist composition of Embodiment 20, this will give 1 wt% of Iwasa's photoacid generator and 0.01 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.05 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids, this will give 0.95 wt% of Iwasa's photoacid generator and 4.76 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Therefore, Iwasa's photoacid generator will range from 0.95-1 wt% and iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids will range from 0.01-4.76 wt%. The range of 0.95-1 wt% for Iwasa's photoacid generator overlaps with present ranges of claims 12-14, and the range of 0.01-

4.76 wt% for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids overlaps with present ranges of claims 15-17. Therefore, the prior art's teaching would render the present ranges of claims 12-17 prima facie obvious. In re Wertheim, supra.

5. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al (5,994,025) in view of Kobayashi et al (6,136,500) as applied to claim 1 above, and further in view of Tan et al (6,004,721).

Iwasa in view of Kobayashi with respect to present claim 1 is discussed in Paragraph 4 above. With respect to present claim 5, Iwasa in view of Kobayashi do not explicitly teach the presently claimed organic basic compound. Tan teaches (col.44, lines 44-48) that adding an organic basic compound to a positive photoresist composition improves storage stability and reduces the line width change caused by PED (lapse of the time from exposure to baking). It is the Examiner's position that it would have been obvious to one of ordinary skill in the art to add an organic basic compound into the photoresist composition taught by Iwasa in view of Kobayashi in order to improve storage stability and reduce the line width change caused by PED as taught by Tan et al. Therefore, Iwasa in view of Kobayashi and further in view of Tan et al would render obvious present invention of claim 5.

With respect to present claim 11, Iwasa in view of Kobayashi do not explicitly teach the presently claimed alkali-soluble resin without containing the acid-decomposing group. Tan teaches (col.19, lines 15-20) that an alkali-soluble resin not containing acid-decomposable groups can be added to a positive photoresist composition in order to improve sensitivity. It is the

Examiner's position that it would have been obvious to one of ordinary skill in the art to add an alkali soluble resin into the photoresist composition taught by Iwasa in view of Kobayashi in order to improve sensitivity as taught by Tan et al. Therefore, Iwasa in view of Kobayashi and further in view of Tan et al would render obvious present invention of claim 11.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan et al (6,004,721) in view of Kobayashi et al (6,136,500).

The resin shown in col.8, lines 5-10 of Tan teaches present resin of the formula (I); in the present formula, R_1 would be an alkyl group having 1 carbon atom, n would be an integer of 2, and W would be an organic group containing two oxygen atoms and two carbon atoms, more specifically, -O-C(=O)-CH_3 group (which is presently claimed -O-C(=O)-R_2 group wherein R_2 represents an alkyl group having 1 carbon atom). Tan teaches (col.7, lines 48-53) that their resin can be made by synthesizing a vinyl ether corresponding to the substituent and reacting the ether with the alkali-soluble resin containing phenolic hydroxyl groups. Therefore, in order to make the resin shown in col.8, lines 5-10, Tan first makes (in Synthesis Example I-1) a vinyl ether X-1 (which has the chemical structure of H_2C=CH-O-CH_2CH_2-O-C(=O)-CH_3), and then react the vinyl ether with poly(p-hydroxystyrene) ("alkali-soluble resin A-4" which is synthesized in synthesis Example II-4) to obtain the resin B-1 (see Synthesis Example III-1), which is the same resin shown in col.8, lines 5-10. Then, in Example 1 (see Table 2), Tan uses a photoresist composition containing the resin B-1 (*present component (a)*), a photoacid generator D-1 (*present photoacid generator (b-1)* that generates a sulfonic acid upon exposure to radiation), and

an *organic basic compound*, all dissolved in propylene glycol monoethyl ether acetate (*a solvent*). Tan also teaches (col.46, lines 8-12) that his photoresist composition can further contain *surfactants*. Therefore, the prior art teaches every component of present claim 1 except for the present component (b-2).

Kobayashi et al, a reference which teaches a positive type radiation sensitive resin composition, teaches (col.2, lines 42-59 and col.12, lines 50-65) that using a photoacid generator comprising (I) a compound that upon exposure to radiation generates a carboxylic acid and (ii) a compound that upon exposure to radiation generates an acid other than a carboxylic acid can markedly suppress the problems of "nano-edge roughness" or "coating surface roughness". As particularly preferred acid generators that generates a carboxylic acid, Kobayashi includes *iodonium salts of carboxylic acids* and *sulfonium salts of carboxylic acids* (see col.15, lines 66-67, col.16, lines 1-7). Kobayashi also teaches (col.17, lines 63-65) that for the acid generators that generates an acid other than a carboxylic acid, compounds that upon exposure to radiation generates *sulfonic acid* and/or sulfinic acid are preferred. Since Tan's photoacid generator (D-1) used in Example 1 also generates a sulfonic acid upon exposure to radiation, it is the Examiner's position that based on Kobayashi's teaching it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids together with Tan's photoacid generator in Tan's invention in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. Because the iodonium salts of carboxylic acids or the sulfonium salts of carboxylic acids are also cited (see

pg.67, last paragraph of present specification) by applicants as examples for the photoacid generator (b-2), Tan in view of Kobayashi would render obvious present component (b-2), and either of iodonium salts of carboxylic acids and sulfonium salts of carboxylic acids would *inherently* make no contribution to the decomposition reaction of the acid-decomposable group as presently recited. Therefore, Tan in view of Kobayashi teaches present inventions of claims 1-5.

With respect to present claims 6 and 7, Tan teaches (col.18, lines 53-56) that 10-80% of the phenolic hydroxyl groups of the alkali soluble resin (such as poly(p-hydroxystyrene)) is substituted with substituents. Since this range overlaps with present ranges of claims 6 and 7, the prior art's range would have made present ranges of these claims prima facie obvious. In re Wertheim, supra.

With respect to present claims 8-10, since Tan uses 1.60 grams of the resin B-1 in Example 1 (which converts to 95 wt%), the prior art in view of Kobayashi teaches present inventions of claims 8-10.

With respect to present claim 11, Tan teaches (col.19, lines 15-17) that an alkali-soluble resin can be added to his photoresist composition in order to improve sensitivity. Therefore, the prior art in view of Kobayashi teaches present invention of claim 11.

With respect to present claims 18-20, Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5. Therefore, it would have been obvious to one of ordinary skill in the art to use iodonium salts of carboxylic acids or sulfonium

salts of carboxylic acids together with Tan's photoacid generator (D-1) in Tan's invention in the weight ratio of 0.01-5 in order to markedly suppress the problems of "nano-edge roughness" or "coating surface roughness" as taught by Kobayashi. The prior art's range of 0.01 to 5 teaches present range of claim 18. This range also overlaps with present ranges of claims 19 and 20, and thus the prior art's range would have made the present ranges of claims 19 and 20 prima facie obvious. In re Wertheim, supra.

With respect to present claims 12-17, since Tan uses 0.08 grams of the photoacid generator (D-1) in Example 1, and since Kobayashi teaches (col.20, lines 40-44) that the weight ratio of the acid generator that generates a carboxylic acid to the acid generator that generates an acid other than a carboxylic acid is usually 0.01 to 5, this will give 0.0008-0.4 grams for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.0008 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids to the resist composition of Tan's Example 1, this will give 4.7 wt% of the photoacid generator (D-1) and 0.047 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Assuming that one adds 0.4 grams of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids, this will give 3.84 wt% of the photoacid generator (D-1) and 19.2 wt% of iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids. Therefore, the photoacid generator (D-1) will range from 3.84-4.7 wt% and iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids will range from 0.047-19.2 wt%. The range of 3.84-4.7 wt% for the photoacid generator (D-1) overlaps with present ranges of claims 12-14, and the range of 0.047-19.2 wt%

for iodonium salts of carboxylic acids or sulfonium salts of carboxylic acids overlaps with present ranges of claims 15-17. Therefore, the prior art's teaching would render the present ranges of claims 12-17 prima facie obvious. In re Wertheim, supra.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is (703) 305-0504. The examiner can normally be reached on Monday-Friday from 8:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Janet Baxter, can be reached on (703) 308-2303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 for after final responses or (703) 872-9310 for before final responses.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

S. Lee
February 23, 2002

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